Dual

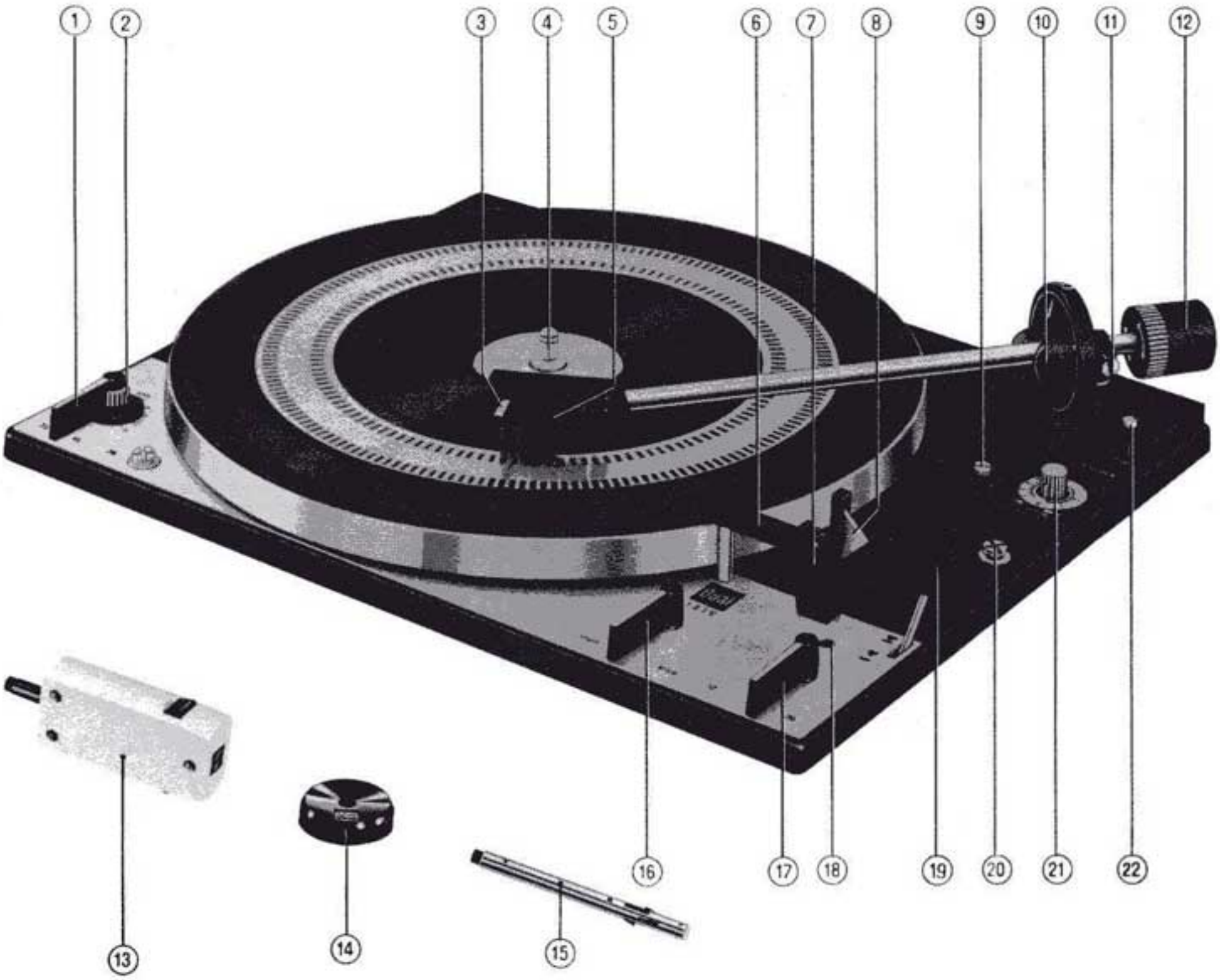
1219

Bedienungsanleitung
Operating instructions
Notice d'emploi
Instrucciones de manejo

Deutsch
English
Francais
Español

Dual

1219



Dear record lover:
Please read these instructions carefully before you begin to set up and operate your new automatic turntable. By doing so, you will not only avoid faulty operation, but enjoy the full performance capabilities of the 1219.
Move page 2 outward.

Unpacking

This instruction applies only if you have bought the 1219 as a separately packed component.

See the separate unpacking instructions. Install the platter by lowering it carefully and slowly onto the shaft. An oil-soaked felt washer will be pushed out as you lower the turntable platter, thus oiling the shaft. It can then be discarded.

If your 1219 does not have a cartridge installed, you will find installation instructions on page 11.
With the tonearm locked in place, install the counterbalance at the rear of the tonearm. You will find further instructions for balancing the tonearm and setting stylus force on pages 11 and 12 of these instructions. For the correct stylus force, which depends on the make and model of cartridge, follow the instructions provided with the cartridge.

Installation on base

The 1219 has three mounting screws, each with three positions, that allow you to install and remove your Dual from the top.

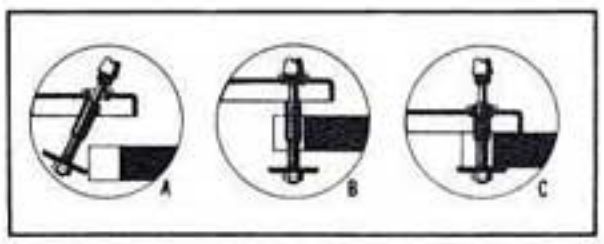


Fig. 1

Hold the chassis above the base so that the two spring-mounted footings at the rear of the unit will fit into their cut-outs. As you lower the chassis, tilt the transport screw with your thumbs to let them slip past the special notches. Then proceed in the same way with the other two transport screws and place the spring-mounted footings located on the left and right front side of the turntable into the cut-outs of the base.
Then turn the screws clockwise until they are seated in the top of the chassis. The chassis is now spring-mounted.

To secure the 1219 for transport, unscrew the mounting screws, pull them up, then continue to turn them counterclockwise until they hold the chassis tight against the base. To prepare the 1219 for play again, turn the three screws clockwise until they loosen, then continue to turn until they are again seated in the chassis.

Note: After initial installation and after every transport, allow the automatic mechanism to adjust itself by operating the 1219 through one change cycle with the tonearm locked on its rest (move the operating lever to "start").

Connections to power-line

For Duals already installed in either console or compact systems, see the instructions for the complete system.

The 1219 can be used with 50 or 60 Hz AC, at 110 or 220 volts. It is normally preset for 220 volts, 50 Hz.

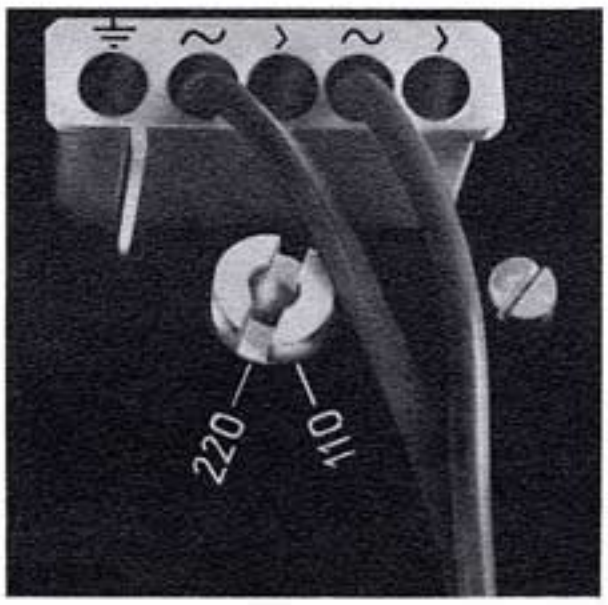


Fig. 2

The voltage for which the 1219 has been preset can be read on the voltage selector. The frequency will be found on the nameplate. Both are on the underside of the chassis.

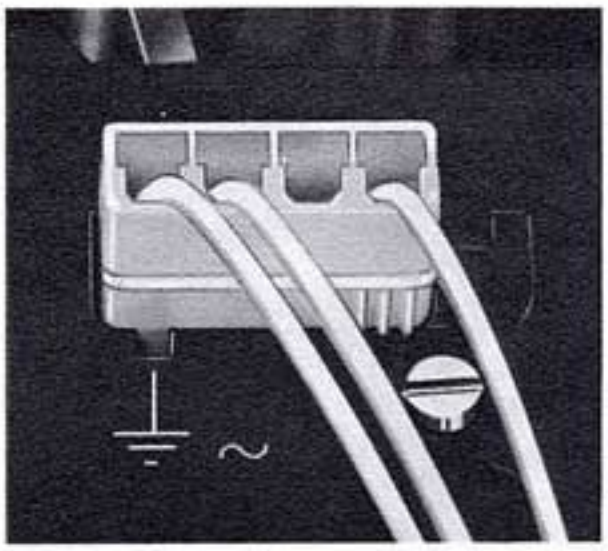


Fig. 3

In units without a voltage selector, the correct operating voltage must be set by inserting the motor power cable into the appropriate terminals, according to the drawing in the power switch cover.

The power switch is designed so that preamplifiers or power amplifiers can be switched on or off automatically as the 1219 is turned on or off.

The load on the power switch must not exceed 400 VA (volt-amperes). This feature is generally used with all-transistor amplifiers, which have no warm-up delay.

The connection is made to contacts provided on the plug portion of the power switch.

In this case, the line cord is to be fitted with AMP plugs as follows:
B. No. 213 982; AMP-No. 160 565/1 (Fig. 2) for 5-pole power supply plug
B. No. 209 458; AMP-No. 42859/1 (Fig. 3) for 4-pole power supply plug

Connections to amplifier

For units already installed in systems, the connections are already made.

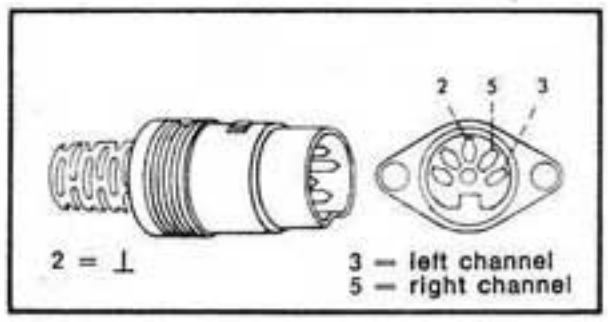


Fig. 4

The 1219 can be fitted with DIN 41 524 miniature connectors (Fig. 4) or with RCA-type phono plugs (Fig. 5).

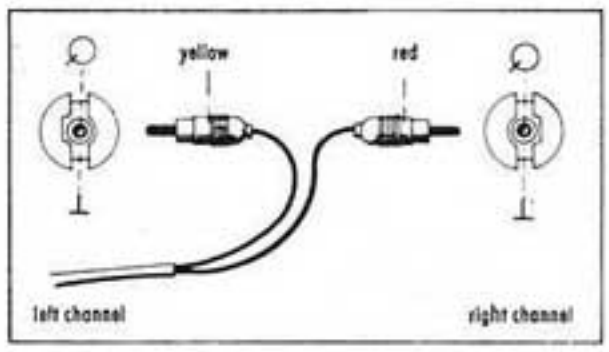


Fig. 5

If the unit is to be connected to equipment without a power transformer (such as a small radio or some amplifiers), the Dual should be grounded to prevent possible shock. A contact is available for this purpose on the power connector. (Figs. 2 and 3).

English

Operating instructions

① **Speed selector**
② **Pitch-control knob**
③ **Tonearm lift and lock**
④ **Rotating single-play spindle**
⑤ **Cartridge holder**
⑥ **Tonearm ledge (motor remains on)**
⑦ **Tonearm rest (motor is shut off)**
⑧ **Tonearm lock**
⑨ **Tonearm cue-control height adjustment**
⑩ **Stylus force adjustment**
⑪ **Counterbalance lock knob**
⑫ **Tonearm counterbalance**
⑬ **Multiple-play spindle for large-hole records**
⑭ **Adapter for large-hole records (single-play)**
⑮ **Multiple-play spindle**
⑯ **Operating switch**
⑰ **Record size selector**
⑱ **Tonearm set-down adjustment**
⑲ **Cue-control**
⑳ **Chassis hold-down screw (for transport)**
㉑ **Anti-skating force adjustment**
㉒ **Mode selector**

Operation in single-play mode

Mode selector ㉒ in position "single". Set the mode selector for single play. Insert the short single-play (and, for 45 rpm records, the center-hole adapter). Set the motor speed and record size selector for the record to be played. Unlock the tonearm, (Fig. 7) and the 1219 is ready for play.

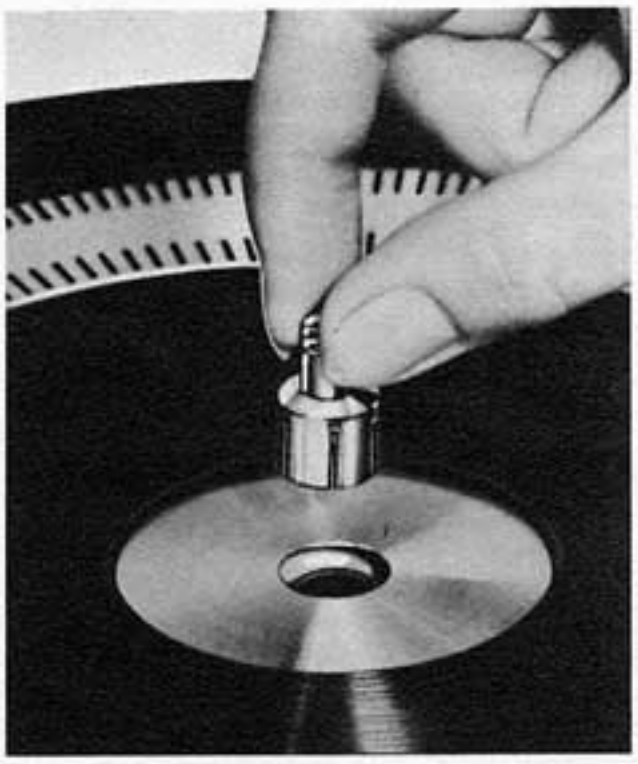


Fig. 6

1. Automatic start
Push the operating switch to "start". The motor will start, the tonearm will rise, move to the record, then descend smoothly to the record. The slow descent rate of the cue-control functions automatically.

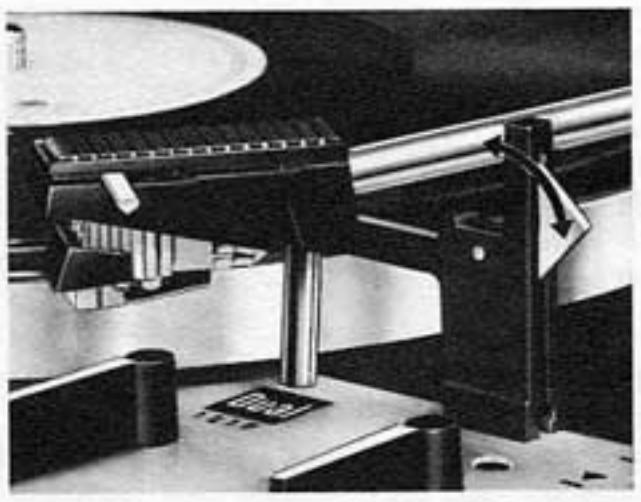
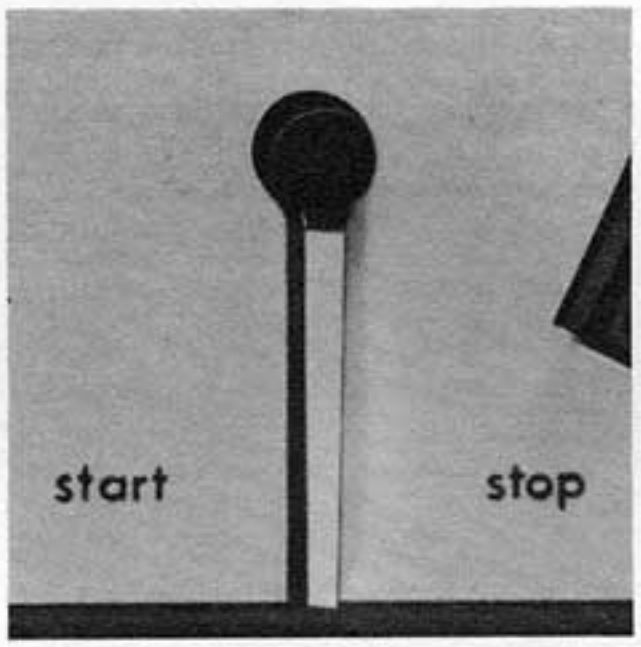


Fig. 7

2. Manual start
Place the tonearm on the record by hand. (As you move the tonearm from the rest post toward the record, the platter will begin to rotate.)



3. Manual start with cue-control
a) Move the cue-control lever to position ▼ .
b) Place the tonearm over the record where you would like play to begin.
c) Tap the lever back to position ▼ . (The tonearm will descend.)

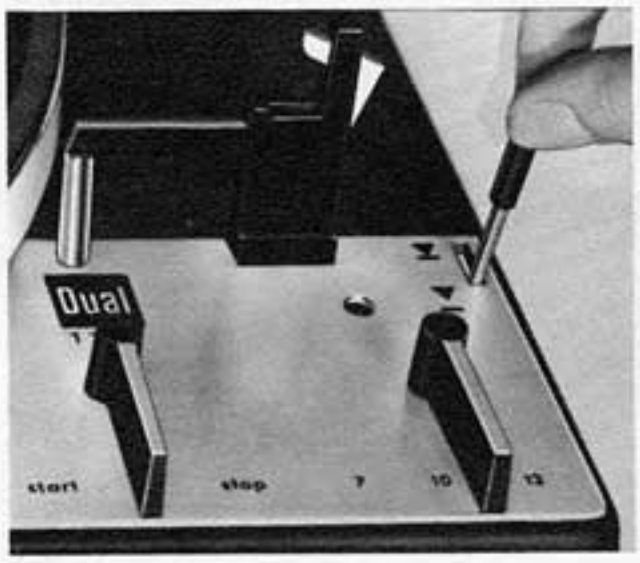


Fig. 9

4. To repeat a record
Push the operating switch to "start".

5. To interrupt play
Move the cue-control lever to ▼ .

6. To resume play where it was interrupted
Move the cue-control lever to ▼.
(A light tap will do.) The last few bars will be repeated.

7. To stop
Move the operating switch to "stop". The tonearm will return to its rest and the motor will shut off.

Note: After a single record has played, or after the last record in a stack has been played, the tonearm will return automatically to its rest, and the motor will shut off. It is advisable then to lock the tonearm on its rest. (Fig. 7)

Operation in multi-play mode

Mode selector ㉒ in position "multi". Set the mode selector for multiple-play. Insert either the multiple-play spindle (Fig. 10) or the special spindle (Fig. 11) for large-hole 45 rpm records: Place the key at the base of the spindle into the slot of the shaft, press the spindle down, then turn it to the right until it stops.

Fig. 10

Stack up to six records of the same size and speed on the multiple-play spindle AW 3 or the special one for large-hole 45 rpm records.

Fig. 11

When you move the operating switch to "start", the first record will drop and the tonearm will lift, move to the record, then descend. If you wish to reject a record that is playing and change to the next one of the stack, move the switch to "start" again.

Automatic play without interruption
Once the record has been laid down on the platter, insert the puck through the multiple-play spindle. It is recommended to place a 45 rpm record on top of the puck for added weight. The record will then play continuously without interruption.

Fig. 12

Note: records already played can be lifted back to the spindle for replay, or removed altogether. There is no need to remove the spindle in either case.

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* The 45 rpm record spindle AS 12 is available from audio dealers as an accessory.

Technical specifications

Mounting the cartridge (pick-up)
The following instructions apply only if your 1219 was purchased without a cartridge installed, or if you ever wish to replace a cartridge. The 1219 will accept any cartridge that weighs from 1 to 12 grams, and that has standard 1/2" mounting centers.

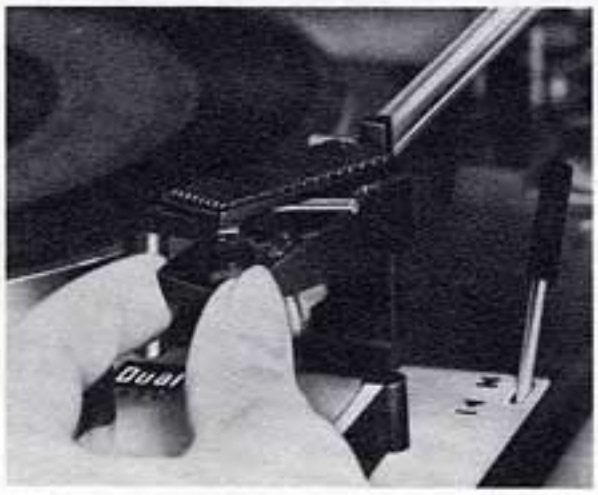

Fig. 13

1. Remove the cartridge holder from the tonearm head by pressing the tonearm lift toward the rear. Hold the cartridge as you do so, or it will fall out.

2. From the hardware supplied with either your Dual or with your cartridge, select a pair of spacers and screws that will place the stylus tip 21 mm from the top of the holder.

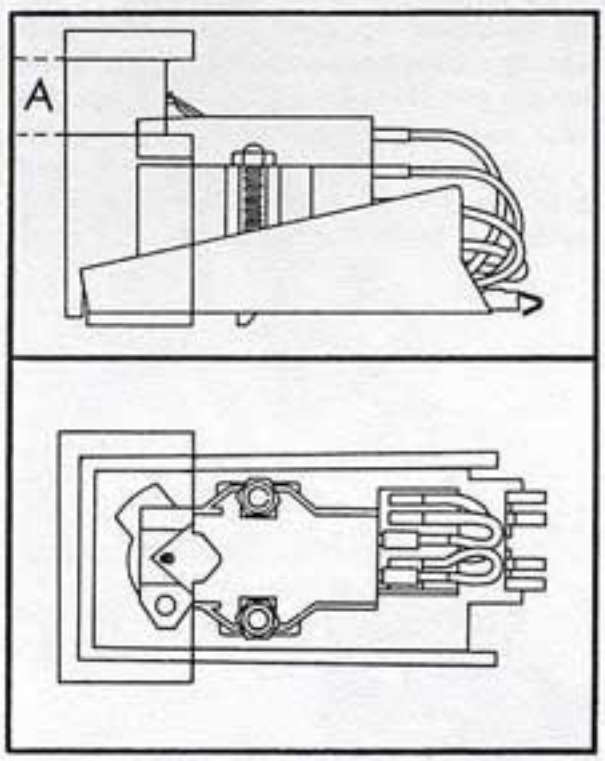

Fig. 14

3. A special gauge is also supplied to assure correct mounting. (Fig. 14). The cartridge is correctly mounted when the notch in the gauge encloses the stylus tip, and when the stylus tip, viewed from the side is also within the area (A).

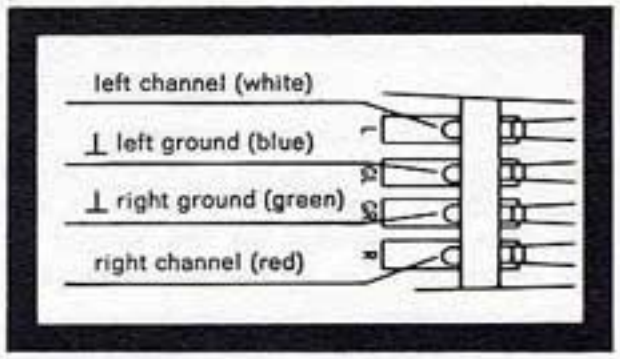

Fig. 15

4. Connect each lead on the cartridge holder to its corresponding pin on the cartridge. Each lead is color-coded as shown in fig. 15.

5. Reinsert the cartridge holder in the tonearm head from underneath, and lock it by moving the tonearm lift forward.

Balancing the tonearm
1. With the tonearm locked on its rest post, and the stylus force dial set at "0", slip the shaft of the counterbalance onto the rear of the tonearm. Do not tighten the set-screw.

2. To make sure the tonearm is disengaged from the cycling mechanism, move the operating switch to "start", then rotate the platter two or three times by hand.

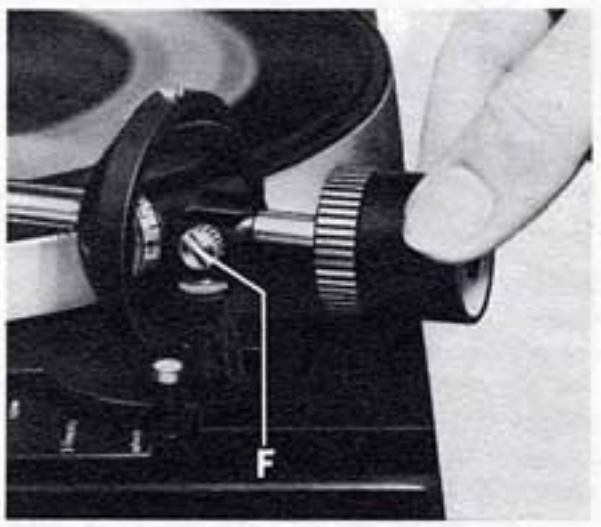

Fig. 16

English

3. Unlock the tonearm, and lift it off the rest post.

4. If the tonearm does not remain in horizontal position, slide the counterbalance back and forth until the tonearm is approximately balanced for the weight of the cartridge. Then tighten the set-screw.

5. For fine balance, turn the counterbalance. Each click-stop represents 0.01 gram. The tonearm is precisely balanced when edge "A" of the tonearm head and edge "B" of the tonearm rest are at equal height. (Fig 17) Another way to judge is to tap the chassis. The tonearm should return to the horizontal by itself.

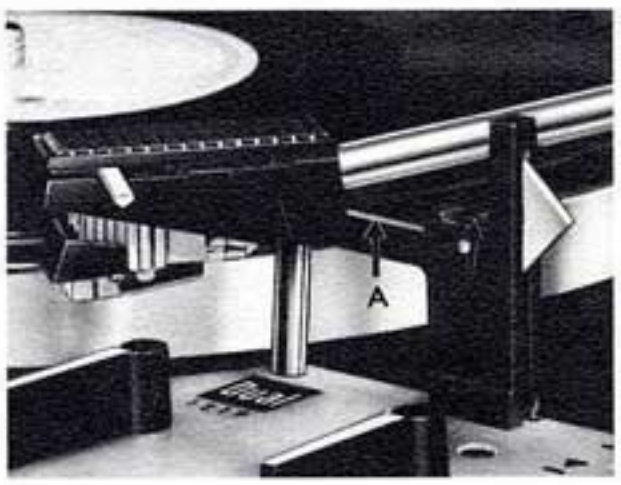

Fig. 17

Note: Precise balance is especially important with cartridges that require a low stylus force. This procedure need be done only once, unless you install a different cartridge.

Fig. 18

flawlessly at the correct stylus force recommended by the manufacturer of your cartridge. See the instructions enclosed with your cartridge.

Too low a stylus force produces distortion on loud recorded passages. Too high a stylus force can cause excessive wear on the stylus and record.
For Duals supplied with factory-installed cartridges, see the special instructions enclosed.

Anti-skating
The numbers on each of the two anti-skating scales correspond to stylus force. Use the red scale for conical styli, and the black scale for elliptical styli. Using the correct scale for the type of stylus in your cartridge, set anti-skating to the number previously set for stylus force.

Fig. 19

Setting stylus force
Once the tonearm is balanced, set stylus force by turning the stylus force dial to the number recommended for your cartridge. Stylus force is continuously adjustable from zero to 5.5 grams, with an accuracy of ± 0.1 gram. The 1219 will function properly with as little as 0.25 gram stylus force, which allows it to track

These settings are precise for conical styli with 0.6 mil radii and for elliptical styli with 0.2 x 0.9 mil radii. The table below allows you to make slight adjustments in these settings for conical styli of other radii.

Anti-skating eliminates the tendency of any tonearm with an angled head to move toward the center of the record faster than the rotating groove would normally move it. The "skating" force, if not eliminated, results in more stylus force against the inner groove wall than against the outer groove wall.

Tracking force "p"	Anti-skating compensation for stylus radii in microns 9	11	13	15
0,5	0,70	0,60	0,55	**0,5**
1,0	1,15	1,10	1,05	**1,0**
1,5	1,75	1,65	1,55	**1,5**
2,0	2,30	2,15	2,05	**2,0**
2,5	2,90	2,65	2,55	**2,5**
3,0	3,45	3,20	3,05	**3,0**
3,5	4,10	3,75	3,55	**3,5**
4,0	4,80	4,30	4,10	**4,0**
4,5	5,50	4,90	4,60	**4,5**
5,0	—	5,50	5,15	**5,0**

Tracking force "p"	Anti-skating compensation for stylus radii in microns 17	19	elliptical 5-6x18-22
0,5	0,45	0,40	**0,5**
1,0	0,95	0,90	**1,0**
1,5	1,45	1,40	**1,5**
2,0	1,95	1,90	**2,0**
2,5	2,45	2,40	**2,5**
3,0	2,95	2,90	**3,0**
3,5	3,45	3,35	
4,0	3,95	3,85	
4,5	4,40	4,30	
5,0	4,90	4,80	

Note: If you use a moistening device for cleaning your records as they are being played, the moisture on the record will reduce the friction between the stylus and groove by about 10%. This will also reduce skating by that amount. Thus, under these conditions, the anti-skating for any stylus can be reduced by 10%.

Mode selector for 15° tracking angle

Selector at "single"
Correct position for playing a single record.

Selector at "multi"
Correct position for record-changing operation.

With its "mode selector", the Dual 1219 offers for the first time a technically elegant solution to the problem of maintaining the correct vertical tracking angle when the unit is used in multiple-play as well as when it is used as a single-play turntable.

In the single-play position, the tonearm is absolutely horizontal over the record. When the selector is shifted for multiple-play, the entire tonearm base is lifted about 3/16".

The Dual 1219 is thus set to play several records automatically, and the vertical tracking angle is correct for a position midway through a stack of six records.

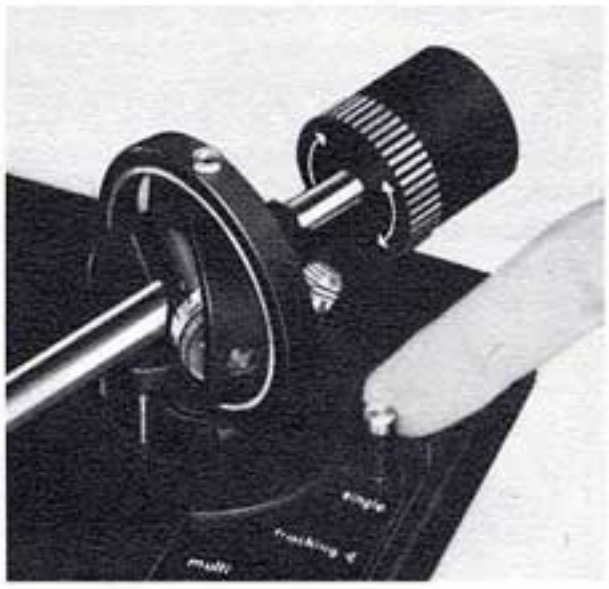

Fig. 20

To prevent operation with incorrect settings, the automatic changing mechanism will function only with the selector in "multi".

In the "single" position, records will fail to drop and the tonearm will not swing inward.

Cue-control
Your player is equipped with a precise, jolt-free, silicone-damped tonearm lifting device. With this cue-control, the tonearm can be placed over any spot on a record, then lowered more gently than possible by hand. The rate of descent is independent of temperature.

Fig. 21

Its operating lever has two positions:
playing position ▼
lift position ▼ , in which the tonearm is lifted off the record surface. A light tap backwards on the lever starts the tonearm descending. The height of the stylus above the record in the ▼ position can be adjusted from zero to about 6 mm (1/4") with screw ⑨.

Pitch-control
Each of the three standard speeds (33⅓, 45 and 78 rpm) can be varied about 6% (approximately one musical semitone). The speed can be checked with the stroboscopic disc on the turntable platter.

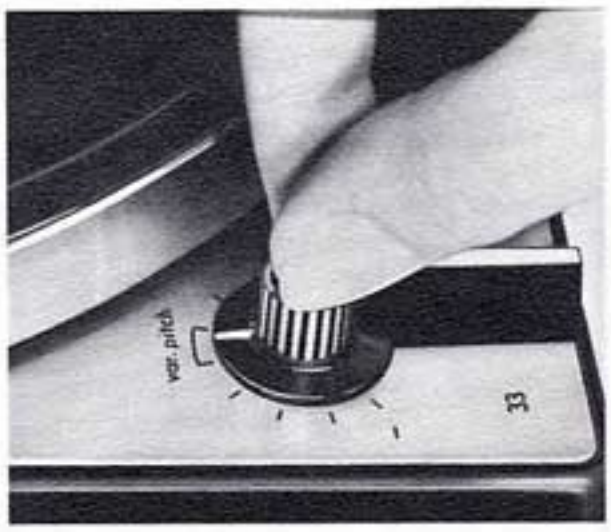

Fig. 22

When the disc is illuminated by a light (preferably fuorescent) powered from alternating household current, the ring of lines corresponding to the choosen speed will appear to stand still when the turntable is rotating at the correct speed.

Adapting for other power frequency
To adapt the unit for use at a different power-line frequency, is accomplished by changing the motor pulley (A), which is secured to the motor shaft by a screw and can be reached by removing the turntable platter.

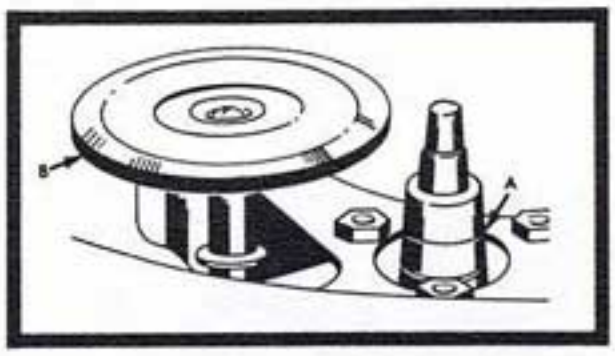

Fig. 23

Caution: Handle the motor pulley carefully. A bent pulley causes rumble.

Stock numbers for motor pulleys:
For 60 Hz, 218 276,
for 50 Hz, 218 275.

Removing the turntable platter
To remove and replace the spring-clip that secures the turntable platter, use the accessory cone-shaped piece provided for the purpose. (Fig. 24 A, removing the spring-clip); Fig. 24 B, replacing the spring-clip)

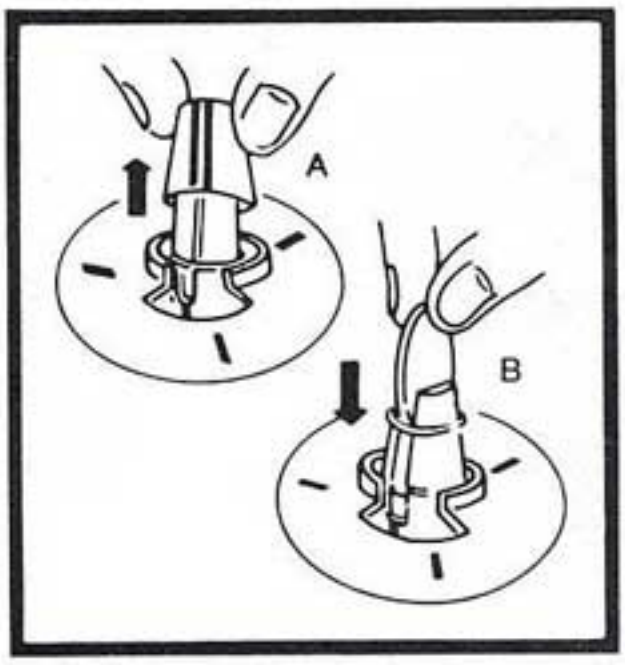

Fig. 24

Important! To avoid possible slippage between idler, motor pulley and platter, do not touch any of the running surfaces with your fingers.

Adjusting tonearm set-down position
With automatic start, the stylus descends automatically into the outer groove of the record. It is possible, due to peculiarities in the mounting of a cartridge, that the stylus may land too far in or too far out on the record.

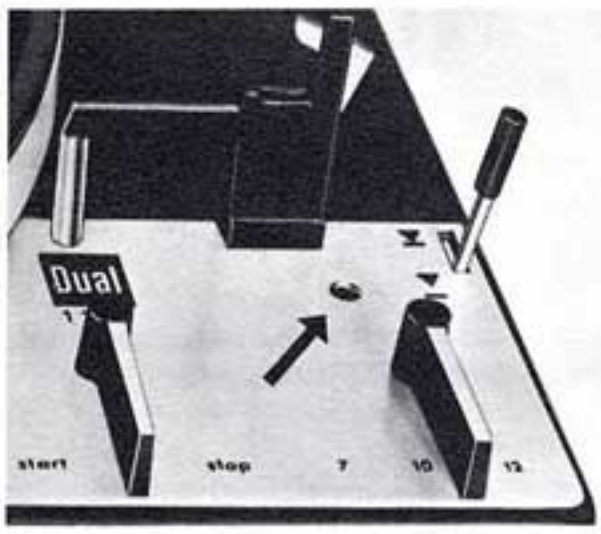

Fig. 25

In that case, set the record size selector for a 12" record (30 cm). Through the hole next to the tonearm rest, you will see an adjustment screw. If the stylus lands too far into the record, turn the screw very slightly to the left; if it lands too close to the edge, turn it slightly to the right.

Service
All parts that require lubrication are liberally coated with oil. Under normal conditions, your Dual will function perfectly for years. Do not oil any parts; special oils must be used. Should your Dual ever require service, either take it to your dealer or ask him for the address of the nearest authorized Dual service agency. Be sure that original Dual replacement parts only are used. Always ship your Dual in its original packing.

Technical data

Power supply:
alternating current, 50 or 60 Hz, changeable by changing motor pulley.

Power supply voltage:
110/117 volts or 220 volts, switchable

Drive:
Synchronous continuous-pole motor with radialelastic suspension

Power consumption:
approx. 10 watts

Current drain:
at 220 volts, 50 Hz, approx. 62 mA
at 117 volts, 60 Hz, approx. 115 mA

Turntable platter:
nonmagnetic, dynamically balanced, weighing 3.1 kg (6.8 lbs)

Speeds:
33⅓, 45 and 78 rpm

Pitch-control variation:
6 % on all speeds (approx. one semitone)

Speed accuracy deviation:
less than ± 0.06 % measured according to DIN 45 507

Signal-to-noise ratio:
Rumble: — 45 dB
Weighted rumble: — 60 dB
according to
DIN 45 500

Tonearm:
extra-long, torsionally rigid metal arm, in 4-point gimbal suspension, with skeletal head design

Tracking error: less than 1° 30'

Tonearm bearing friction
(referred to stylus tip):
Vertical, less than 0.007 gram
Horizontal, less than 0.015 gram

Cartridge holder:
Removable, accepts all cartridges weighing from 1 to 12 grams and with standard ½" mount

Weight:
6.8 kg (15 lbs), less packing

Dimensions:
376 x 334 mm (14¾" x 12") with 26 mm (1") tonearm overhang.

Baseboard cut-out:
See installation instructions